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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF: :

WILLIAM M. CANFIELD : EXAMINER: PATTERSON, JR., C.

SERIAL NO: 09/895,072 :

FILED: July 02, 2001 : GROUP ART UNIT: 1652

FOR: METHODS FOR PRODUCING HIGHLY PHOSPHORYLATED LYSOSOMAL HYDROLASES

DECLARATION UNDER 37 C.F.R. 1.132

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Now comes William M. Canfield, M.D., Ph.D. who states that:

1. I am Senior Vice President of Genzyme the assignee of this application President of the Genzyme GlycobiologyResearch Institute .
2. I am the named inventor of the above-identified application.
3. I have reviewed and understand the claims currently on file in the above-identified application.
4. It is my understanding that a point of contention in this application is whether the claims are obvious in view of Kornfeld (AY-2 or AZ-2) or Cuozzo et al (AX) in view of Bao et al (I or II) and in view of Kornfeld (BW).

5. I am an author of each of Kornfeld (BW), Bao I, and Bao II.

6. It would require undue experimentation in order to purify the enzymes without the two specific antibodies described in the current patent application. My conclusion is based on the years of failure that I and others experienced in numerous attempts to purify the phosphotransferase and the N-acetylglucosamine-1-phosphodiester α-N-Acetylglucosaminidase enzymes to high specific activities useful for the modification of lysosomal enzymes. Certainly without the antibodies deposited and described in the above-noted patent application, obtaining the enzymes to the specific activities described and claimed in the current application would have required undue experimentation.

7. It is also my belief, based on my years of experience as a scientific researcher, that it would be difficult to isolate those unique antibodies again. In order to be useful for affinity purification as described, the monoclonal antibodies must have a collection of properties. These antibodies must bind with high affinity, not inhibit the intrinsic enzymatic activity while bound and be reversible under mild conditions consistent with the stability profile of the target enzyme. In subsequent work although we have generated a number of additional monoclonal antibodies to both GlcNAc-phosphotransferase and the N-acetylglucosamine-1-phosphodiester α-N-Acetylglucosaminidase we have never generated a monoclonal with these unque properties. Although it may be possible to isolate additional monoclonals with the required properties it is certainly a difficult undertaking and would require undue experimentation.

8. Therefore, the descriptions in the publications of paragraph 5, which are also cited by the patent office, do not provide sufficient information to enable one of skill in the art to purify the phosphotransferase and the N-acetylglucosamine-1-phosphodiester α-N-Acetylglucosaminidase enzymes to the specific activities currently claimed.

9. I declare under penalty of perjury that the foregoing is believed to be true and accurate.

William M. Canfield, M.D.,Ph.D.

11/26/2003

Date